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BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

GARY PIERCE – Chairman
BOB STUMP
SANDRA D. KENNEDY
PAUL NEWMAN
BRENDA BURNS

IN THE MATTER OF THE APPLICATION OF TUCSON ELECTRIC POWER COMPANY FOR THE ESTABLISHMENT OF JUST AND REASONABLE RATES AND CHARGES DESIGNED TO REALIZE A REASONABLE RATE OF RETURN ON THE FAIR VALUE OF ITS OPERATIONS THROUGHOUT THE STATE OF ARIZONA.	DOCKET NO. E-01933A-12-0291 **NOTICE OF FILING DIRECT TESTIMONY OF JIM KAPSIS ON BEHALF OF OPOWER, INC.**

Opower, Inc. ("Opower") by and through its undersigned counsel, hereby provides notice that it has this day filed the written direct testimony of Jim Kapsis.

RESPECTFULLY SUBMITTED this 21st day of December, 2012.

MUNGER CHADWICK, P.L.C.

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Arizona Corporation Commission
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Direct Testimony of

Jim Kapsis

Opower, Inc.

Introduction

Q. Please state your name and business address.

A. My name is Jim Kapsis. My business address is 1515 N. Courthouse Rd. Arlington, VA 22201.

Q. For whom are you testifying?

A. I am testifying on behalf of Opower, Inc. (Opower).

Q. Please describe Opower.

A. Opower is an Arlington, VA-based company that provides information-based behavioral energy efficiency programs for over 75 utilities in 30 states, including Tucson Electric Power, UNS Electric, and Arizona Public Service in Arizona. This year, Opower will deliver personalized energy usage insights to more than 15 million residential customers through paper mail, email, websites, smart phones, and text messages.

Opower's Home Energy Reports program consistently motivates customers to save an average of 1.5-3% on their energy bills. Opower has helped its utility partners drive this level of energy efficiency at scale, achieving more than 1.6 terawatt-hours in energy savings, and driving significant increases in customer energy efficiency program participation and overall customer satisfaction.

Q. What are your professional qualifications?

A. I am the Senior Director of Market Development and Strategy at OPOWER. My team and I are responsible for Opower's market development, policy, and regulatory work in North America. Prior to Opower, I was an Energy Advisor at the U.S. Department of the Treasury. I have also held positions at the U.S. State Department, Defense Department, and in the U.S. Congress. I have a B.A. in political science from Haverford College and a M.P.A. from Princeton University. I have testified in numerous regulatory and legislative proceedings on efficiency policy and regulation.

Q. What is the purpose of your testimony?

A. In my testimony, I will:

- Summarize the public interest in increasing electric energy efficiency, and explain why public policy action is necessary to remove regulatory barriers to energy

efficiency markets;

- Describe how current regulatory uncertainty in some areas of Arizona is paralyzing the business environment for energy efficiency, preventing companies like Opower from doing business, and depriving ratepayers of energy savings benefits and;
- Explain why Tucson Electric Power's ("TEP") Energy Efficiency Resource Plan would create a more stable and predictable business environment for companies like Opower and would ensure that benefits to the ratepayers always exceed costs.

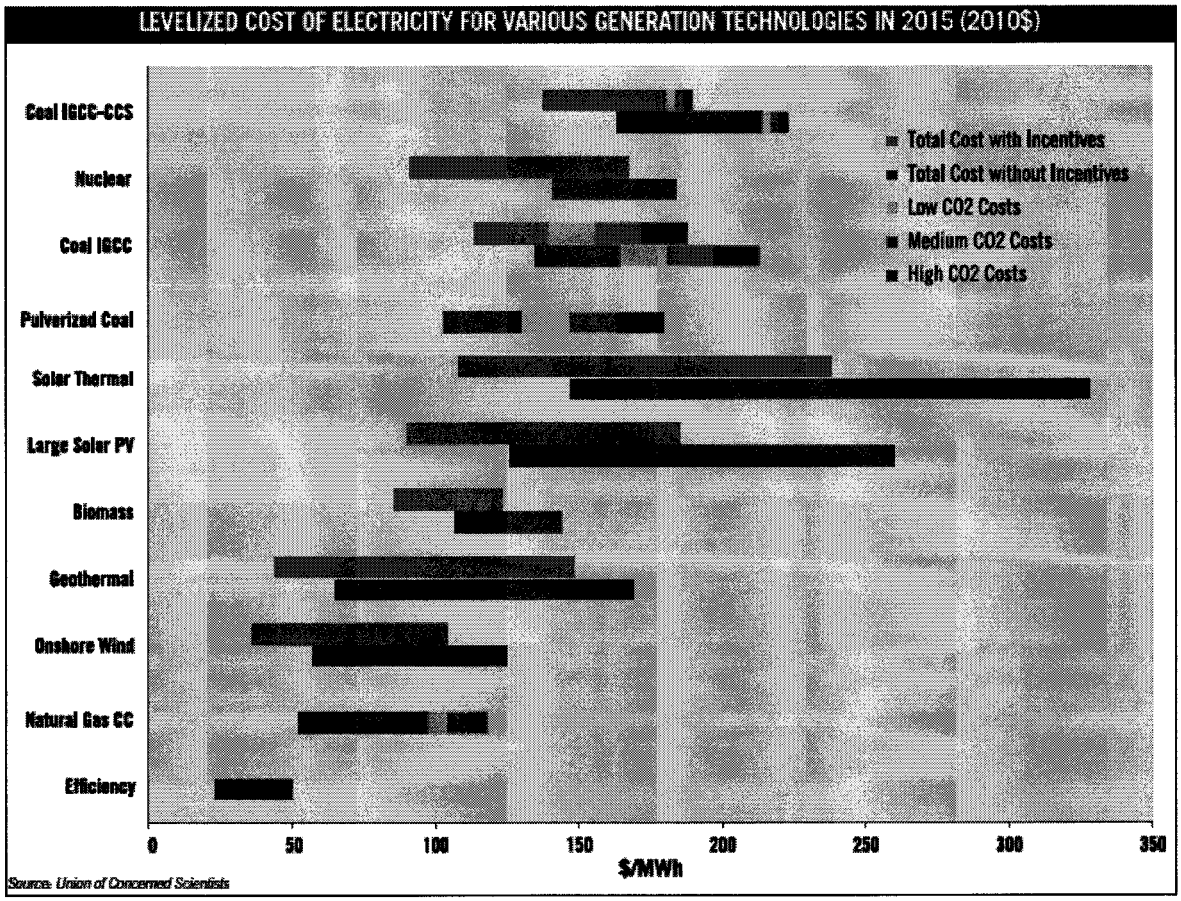
The Public Interest in Increasing Electric Energy Efficiency

Q. What is the public interest in increasing electric efficiency?

A. Electric energy efficiency delivers significant and cost-effective benefits for TEP customers, the electric system, and the economy. Cost-effective energy efficiency is a reliable resource, which is less expensive than other energy sources. In its June 15th testimony in Docket No. E-01933A-11-0055, TEP noted that through its Integrated Resource Planning efforts, the Company has shown "that certain DSM/EE measures can be the lowest cost generation resource available." Figure 1 below shows the levelized cost of electricity, or the cost per megawatt-hour for electricity over the life of the plant, for a variety of energy resources, including energy efficiency and renewable sources.

Because cost-effective energy efficiency is the lowest cost generation resource, increasing investment in energy efficiency efforts can save consumers money through lower electric bills. Investment in additional energy efficiency programs is in the public interest as it allows for the diversification of the energy resource portfolio of utilities, enhances grid reliability, and defers investment in unnecessary and expensive infrastructure. Finally, by reducing electricity demand, energy efficiency mitigates the need to increase electricity and fuel prices and reduces customer vulnerability and exposure to price volatility. Put simply, energy efficiency saves ratepayers money.

Figure 10



Source: Freese, Barbara, et.al, 2011. "A Risky Proposition." Union of Concerned Scientists.

Q. How do behavioral energy efficiency programs deliver energy and bill savings to households?

A. Behavior-based programs provide customers with information that compares a customer's household energy use to that of similar households via mail-based reports and other communications channels. Armed with such information customers are then motivated to modify their behavior and undertake actions and/or make energy efficient product purchases that result in energy savings. Behavior-based programs through Opower are saving 25,000 TEP customers and 80,000 APS customers roughly $30-40/year on their bills, or the equivalent of $3.2-4.2 million a year.

These programs make an important contribution to any energy efficiency portfolio by helping to maximize the potential savings of installed efficiency programs, driving up

participation in other utility-run efficiency programs, and delivering savings to all residential ratepayers – including hard-to-reach households, such as low income, renters, and seniors. In recent years, behavioral programs have become critical components of energy efficiency portfolios throughout the country. The widespread acceptance of behavioral programs is a reflection of the fact that these programs fill an important need for customer energy-savings information, have been rigorously evaluated, and offer significant energy savings.

Q. How do behavioral energy efficiency programs work?

A. Behavioral programs like the Home Energy Reports program use randomized control trials (RCTs) – a form of experimental design – to measure to isolate and cleanly measure energy savings impacts at the 95% confidence interval or greater. RCTs are considered the gold standard in statistical evaluation and are used, for example, by the U.S. Food and Drug Administration in determining whether or not to approve new pharmaceuticals for human consumption. This methodology is consistent with the recommendations of the U.S. Department of Energy-led State & Local Energy Efficiency (SEE) Action Network's EM&V of Residential Behavior-Based Energy Efficiency Programs: Issues and Recommendations."[1] SEE Action is a consensus group comprised of utilities, consumer advocates, commission staff, and government officials. This methodology is also consistent with the National Action Plan for Energy Efficiency guidelines[2], the California Evaluators Manual[3], and The Brattle Group's Principles of Behavior-Based Energy Efficiency.[4]

Q. Why is public policy action necessary to align utility incentives with investment in energy efficiency?

A. Currently, utilities can receive a rate of return on capital assets like power plants, but not on lower-cost resources like energy efficiency. This incentivizes utilities to build more plants, increasing the rate base and raising costs for consumers in the long-term. Many states throughout the US, including Arizona, have recognized the importance of energy efficiency as a resource, and have created Energy Efficiency Resource Standards or

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[1] "Evaluation, Measurement, and Verification (EM&V) of Residential Behavior-Based Energy Efficiency Programs: Issues and Recommendations," May 2012, State & Local Energy Efficiency Action Network, available here: http://www1.eere.energy.gov/seeaction/pdfs/emv_behaviorbased_eeprograms.pdf

[2] National Action Plan for Energy Efficiency. *Model Energy Efficiency Program Impact Evaluation Guide.* November 2007. Available online at: < http://www1.eere.energy.gov/office_eere/pdfs/napee_evaluation_guide.pdf>

[3] California Public Utilities Commission. *California Energy Efficiency Evaluation Protocols: Technical, Methodological, and Reporting Requirements for Evaluation Professionals.* April 2006. Available Online at: <http://www.calmac.org/events/EvaluatorsProtocols_Final_AdoptedviaRuling_06-19-2006.pdf>

[4] Sergici, Sanem and Ahmad Faruqui. *Measurement and Verification Principles for Behavior-Based Efficiency Programs.* May 2011. Available online at: http://opower.com/uploads/library/file/10/brattle_mv_principles.pdf

EERS', to require utility investment in energy efficiency. These policies have successfully created a market for energy efficiency in over 26 states. Although these policies are helpful in driving energy efficiency investment, without a guaranteed program cost recovery mechanism, utilities would not have the incentive to invest in energy efficiency as they would if such cost recovery was guaranteed.

Regulatory Uncertainty for TEP Paralyzes the Business Environment for Energy Efficiency; Depriving Customers of Bill Savings Benefits

Q. Why did Tucson Electric Power choose to run a behavioral energy efficiency program?

A. In Decision No. 71787 (July 2010), the Arizona Corporation Commission ("Commission") ordered TEP to "develop a bill comparison pilot program that will allow its customers to compare their energy usage with that of other similarly situated customers, and submit the pilot program proposal, no later than September 1, 2010, for Staff review and Commission consideration."

In response, TEP submitted a proposed pilot program in August 2010, noting its plans to deliver the program to 25,000 customers in the first year, with expansion to 40,000 in the second year. In Decision No. 72254 (April 2011), the Commission approved the pilot program through December 2012. In October 2011, 25,000 households in TEP's service territory began receiving Home Energy Reports.

Q. Why were existing programs suspended or cut in 2012?

A. Although the Commission approved new EE programs, like the Home Energy Report program, and expanded budgets throughout the 2010-2011 timeframe, the adjustor mechanism to collect the Commission-approved EE program funds has not been reset since June 1, 2010.

In January 2011, TEP filed a 2011-2012 EE Implementation Plan ("EE Plan") with the Commission. The EE Plan provided for the continuation and expansion of existing customer energy saving programs, including the Home Energy Reports program as well as the launch of new such programs. TEP's proposal also included a request for expedited review and approval by the Commission with the goal of launching new and expanding existing customer opportunities by June 2011. This expedited review and Commission approval did not occur, and the plan was not considered until January 2012, after the 2011 program year had concluded.

The Commission then urged stakeholders to negotiate a compromise position, the

"Modified Plan," which included a proposal to reset the adjustor mechanism. After evidentiary hearings were conducted for the Modified Plan, the Commission did not approve the Modified Plan at the March 2012 Open Meeting, and as a result, the decision to fund such programs was delayed further. In response, TEP submitted an Updated Modified Plan in May 2012. Because no action has been taken to approve the Modified Plan, or the Updated Modified Plan, the adjustor mechanism has not been reset to adequately fund Commission-authorized programs and program budgets. As a result, beginning in March 2012, many of TEP's existing programs were suspended or downsized and expansions were delayed. The Home Energy Reports program was suspended as of October 2012.

Q. What impacts will this have on TEP's statutory obligations?

A. Without adequate cost recovery, TEP will be unable to meet its obligations in the Commission's Electric Energy Efficiency rules (A.A.C. R14-2-2401 et seq.) ("EE Rules").

Q. What impacts will this have for energy efficiency businesses in the state?

A. Energy efficiency businesses like Opower need long-term regulatory certainty, similar to what they enjoy in other states, to thrive in Arizona. Regulatory certainty for utilities like TEP translates directly to market certainty for businesses that serve utilities in achieving their regulatory objectives. Unclear expectations create market uncertainty. This can occur when energy efficiency programs are approved but unfunded or when utilities are given aggressive energy efficiency goals but denied the resources to meet those goals. Such market uncertainty forces companies to look to other states to do business.

Q. What impacts will this have for Tucson Electric Power's ratepayers?

A. The TEP Home Energy Reports program for 25,000 households was projected to saved bill payers more than 18 GWh – translating to an estimated $1.8 million or roughly $70 saved per household – in 2012 and 2013. When TEP's bridge plan was not approved, the existing program was put on hold, denying these households the information they need to continue to save over the remaining 15 months of the program.

Opower's Position on TEP's Energy Efficiency Resource Plan

Q. What public policy models successfully incentivize investment in lower cost energy efficiency resources?

A. There are a variety of public policy models that incentivize energy efficiency, but the most successful states combine a strong mandate with guaranteed program and lost revenue recovery in addition to net economic benefit opportunities.

One Southwestern example is Colorado, which provides cost recovery and lost revenue recovery (through a disincentive offset) for all Black Hills Energy and Public Service Company of Colorado (PSCo) and programs. In addition, the Colorado Public Utilities Commission provided PSCo the ability to earn a percentage of net economic benefits resulting from energy efficiency programs (in addition to program cost recovery and lost revenue compensation). As a result of this decision, PSCo is now eligible to earn a percentage of net economic benefits resulting from the companies demand side management portfolio, based upon achievement of annual EERS savings goals.

Q. Why should TEP receive program cost recovery for their investments in energy efficiency?

A. Cost recovery is the most basic requirement for utilities to conduct energy efficiency programs – without a guarantee of basic recovery for the administrative costs of running a program, the utility does not have the regulatory certainty to invest in any resources. Given its recent difficulty in receiving timely cost recovery, TEP proposed an innovative solution – creation of an energy efficiency regulatory asset with a three-year planning horizon, establishing DSMS rates for 2014, 2015, and 2016, and setting cost recovery in place for that time period. This longer planning horizon would help create regulatory certainty for TEP, which would create a more stable and predictable business environment for efficiency companies and contractors. This would then translate into appreciable benefits for ratepayers, who need clear market signals and information about their energy use in order to take advantage of energy efficiency programs. Additionally, the longer time horizon would reduce the burden on Staff and Commission resources for regular review, but would maintain an oversight mechanism through yearly progress reporting.

Q. Why should TEP receive carrying costs and a return for their investments in energy efficiency?

A. The EE Rules require utilities to reduce their energy sales, and compliance with those rules results in reductions in the volume of sales to customers. This produces reductions in TEP's ability to recover its fixed costs with each additional kWh saved, and further, reduces TEP's ability to earn a return on its investment. To alleviate this pressure, TEP proposed to receive a return on investments based on their approved Weighted Average Cost of Capital, with an additional 200 basis points for ROE. Currently, TEP is incentivized to invest in higher-cost generation assets, because the Company can receive a rate of return on those capital assets. In order to treat energy efficiency similarly to

traditional supply-side resources, TEP and its shareholders need a rate of return to compensate for the opportunity cost of not investing in other assets. Further, there is higher risk to the company associated with more "intangible" assets like energy efficiency, and an enhanced ROE is warranted for the increased risk associated with those investments.

Q. Is there a precedent for a Utility Commission to capitalize energy efficiency expenses over time?

A. There are past examples of amortization of energy efficiency expenses over time, with additional basis points for inclusion of energy efficiency in a portfolio, some of which are detailed below:[5]

- In 2011, the Bureau of Public Utilities in New Jersey approved a revenue requirement for PSE&G that included calculation of a return on investment for electric and gas energy efficiency programs with amortization over 60 months.[6]
- In Wisconsin, Wisconsin Power & Light (Alliant Energy) may earn the same rate-of-return on its investments in energy efficiency made through its "Shared Savings" program for Commercial/Industrial (C/I) customers as it earns on other capital investments, like power plant construction.[7]
- Up to 2009, the PUC Nevada regularly approved return on equity (RoE) "adders" of 500 basis points on the equity portion of utility rates.
- A 1988 order from the Massachusetts PSC declared that: "Electric companies can earn a return on C&LM [conservation and load management] equipment and materials, along with related capitalized labor and administrative costs, where such expenditures will provide long-run benefits to ratepayer."[8]
- In 1979 and 1980, the Idaho PUC authorized Pacific Power & Light (PPL) to ratebase loans to residential customers for weatherizing their homes, as well as the cost of water heater wraps given to customers.[9]
- In Washington State, Puget Sound Power and Light was allowed to ratebase most of its DSM budget, including conservation-related advertising, informational, and educational expenditures.[10]

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[5] Regulatory Incentives for Demand-Side Management, ACEEE, 1992

[6] State of New Jersey, Board of Public Utilities. Stipulation of Settlement. 2011. BPUA Docket No. E011010030. June 30.

[7] Wisconsin PSC. Docket 6680-UR-114, October 8, 2008 order

[8] Massachusetts Department of Public Utilities. 1988. Order. 89-36-F. November 30.

[9] Idaho Public Utilities Commission. 1980. Order NO. 15891. September 26., AND Idaho Public Utilities Commission. 1979. Order 14466. March 9.

[10] Washington. 1980. Rev. Code Wash. 80.28.025.

Q. Does Opower recommend a similar Energy Efficiency Resource Plan model for all utilities in Arizona?

A. No. The model for incentivizing energy efficiency through cost recovery, lost revenue recovery, and rate of return can vary from utility to utility based on their unique circumstances. For example, the EE Rules treat each utility separately for the purpose of performance incentives, stating "*an affected utility* may propose for Commission review a performance incentive to assist in achieving the energy efficiency standard set forth in the R14-2-2404."

Conclusion

Q. Does this conclude your testimony?

A. Yes.